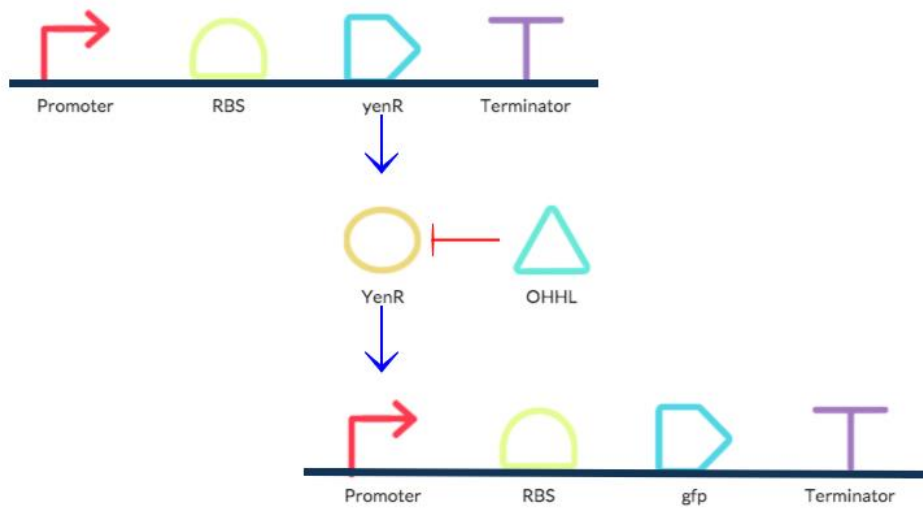


## Biosensor-YenR



### Formulae for two certain parts

$$\frac{d[\text{OHHL}]}{dt} = \beta_p - \eta_0[\text{OHHL}]$$

$$\frac{d[\text{YenR}]}{dt} = \chi_{\text{promoter:BBa\_J23100\_2}} \alpha_{\text{YenR}} [\text{yenR}] \frac{1}{1 + \left( \frac{[\text{OHHL}]}{\beta_{\text{OHHL}}} \right)^{n_{\text{OHHL}}}} - d[\text{YenR}]$$

### Parameter Table

Symbols	Parameters	Values and Units
Beta_p	Production rate of OHHL	5.87 umol*min <sup>-1</sup>
Eta_0	Degradation rate of OHHL	0.83 s <sup>-1</sup>
Alpha_YenR	Translation rate of YenR	4.66 umol*min <sup>-1</sup>
Beta_OHHL	Repression coefficient	2.5
n_OHHL	OHHL cooperativity coefficient	2
Alpha_Spot42_USP45	Translation rate of Spot42_USP45	3.21 umol*min <sup>-1</sup>
D	Degradation rate of protein	0.742 s <sup>-1</sup>
Alpha_USP45_CFY	Translation rate of USP45_CFY	3.93 umol*min <sup>-1</sup>
Beta_spot42_USP45	spot42_USP45 repression coefficient	2.8
n_spot42_USP45	spot42_USP45 cooperativity coefficient	2

**Reference:** <http://2014.igem.org/Team:Uppsala>